

Docket No.: 0020-5381PUS1  
(Patent)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Patent Application of:	Koji MATSUMOTO et al.	Before the Board of Appeals
Application No.:	10/538,079	Confirmation No.: 7194
Filed:	June 9, 2005	Art Unit: 1792
For:	METHOD FOR PRODUCING IODINE TYPE POLARIZING FILM	Examiner: Michael G. Miller

**APPEAL BRIEF**

**MS APPEAL BRIEF-PATENTS**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This Appeal Brief is in furtherance of the Notice of Appeal filed in this case on  
September 7, 2010.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37 and M.P.E.P. § 1206:

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APPEAL BRIEF ON BEHALF OF APPELLANT

**MS APPEAL BRIEF-PATENTS**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**I. REAL PARTY IN INTEREST**

The real party in interest for this application is the Assignee, SUMITOMO CHEMICAL COMPANY, LIMITED.

**II. RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

**III. STATUS OF CLAIMS**

A. Total Number of Claims in Application

There are 12 claims pending in the application.

## B. Current Status of Claims

1. Claims canceled: 7
2. Claims withdrawn from consideration but not canceled: None
3. Claims pending: 1-6 and 8-10
4. Claims allowed: None
5. Claims rejected: 1-6 and 8-10

## C. Claims on Appeal

The claims on appeal are claims 1-6 and 8-10.

**IV. STATUS OF AMENDMENTS**

No amendments have been presented after the Final Rejection of March 4, 2010. All previous claim amendments have been entered.

**V. SUMMARY OF THE CLAIMED SUBJECT MATTER**

The invention on appeal is defined by independent claim 1 and dependent claims 2-6 and 8-10 as described below.

*The Invention of Independent Claim 1*

Independent claim 1 recites a method for producing a polarizing film comprising the step of dipping a polyvinyl alcohol film in/on which iodine is adsorbed and oriented in an aqueous solution containing boric acid at a temperature of 55 to 85°C wherein contact between the aqueous solution and oxygen is suppressed (page 2, lines 13-17; page 4, lines 27-28),

wherein a weight ratio of water:boric acid:potassium iodide in said aqueous solution containing boric acid is 100:(2-15):(2-20) (page 4, lines 19-21).

*The Invention of Dependent Claim 2*

Dependent claim 2 is directed to an embodiment wherein the contact between said aqueous solution containing boric acid and oxygen is suppressed by adjusting an oxygen concentration in an atmosphere which is in contact with said aqueous solution to 5% by volume or less (page 5, lines 17-20).

*The Invention of Dependent Claim 3*

Dependent claim 3 is directed to an embodiment wherein the contact between said aqueous solution containing boric acid and oxygen is suppressed by using an inactive gas as a gas which is in contact with said aqueous solution (page 5, lines 20-23).

*The Invention of Dependent Claim 4*

Dependent claim 4 is directed to an embodiment wherein the dipping of said polyvinyl alcohol film in said aqueous solution containing boric acid is carried out while bubbling said inactive gas in said aqueous solution (page 6, lines 6-9).

*The Invention of Dependent Claim 5*

Dependent claim 5 is directed to an embodiment wherein said inactive gas is nitrogen, helium or argon (page 5, lines 22-23).

*The Invention of Dependent Claim 6*

Dependent claim 6 is directed to an embodiment wherein said polyvinyl alcohol film is dipped in said aqueous solution containing boric acid while said aqueous solution is treated with activated carbon continuously or intermittently (page 8, lines 3-13).

*The Invention of Dependent Claim 8*

Dependent claim 8 is directed to an embodiment wherein a temperature of said aqueous solution containing boric acid is from 50 to 85°C, and a dipping time is from 90 to 1,200 seconds (page 4, line 27 to page 5, line 5).

*The Invention of Dependent Claim 9*

Dependent claim 9 is directed to an embodiment wherein said polyvinyl alcohol film has a polymerization degree of 1,500 to 5,000 (page 3, lines 5-6).

### *The Invention of Dependent Claim 10*

Dependent claim 10 is directed to an embodiment wherein said polyvinyl alcohol film in/on which iodine is adsorbed and oriented is a film produced by uniaxially stretching an unstretched polyvinyl alcohol film in water and then dipping it in a solution containing iodine and potassium iodide, a film produced by dipping an unstretched polyvinyl alcohol film in a solution containing iodine and potassium iodide and then uniaxially stretching it, a film produced by uniaxially stretching an unstretched polyvinyl alcohol film in a solution containing iodine and potassium iodide, a film produced by uniaxially stretching an unstretched polyvinyl alcohol film in a plurality of dipping steps, or a film produced by uniaxially stretching an unstretched polyvinyl alcohol film in a dry state and then dipping it in a solution containing iodine and potassium iodide (page 3, lines 14-25).

The summary to the claimed invention herein is being made to comply with the Patent Office rules in submitting Briefs and is not to be considered as limiting the claimed invention.

## **VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

The Final Office Action provides three (3) grounds of rejection for review on appeal.

- 1) Claims 1-3, 5, and 8-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over **Isozaki** (US 6,337,369) in view of **Starzewski** (US 5,670,092).
- 2) Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over **Isozaki** in view of **Starzewski** further in view of **DesMarais et al.** (US 6,362,244).
- 3) Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over **Isozaki** in view of **Starzewski** further in view of **Dempo** (US 5,512,178).

## **VII. ARGUMENTS**

### **A. *Issues Presented for Appeal***

The issues presented for appeal are the following:

- 1) Has a *prima facie* case of obviousness of claims 1-3, 5, and 8-10 been presented in view of the disclosure of **Isozaki** in view of **Starzewski**?

2) Has a *prima facie* case of obviousness of claim 4 been presented in view of the disclosure of Isozaki in view of Starzewski further in view of DesMarais et al.?

3) Has a *prima facie* case of obviousness of claim 6 been presented in view of the disclosure of Isozaki in view of Starzewski further in view of Dempo?

**B. *Arguments in Support of Patentability***

**1. *The Present Invention and its Advantages***

The present invention relates to a method for producing a polarizing film of a polyvinyl alcohol having no polyvinylene structure comprising dipping a polyvinyl alcohol film in/on which iodine is adsorbed and oriented in an aqueous solution containing boric acid in which the contact between the aqueous solution and oxygen is suppressed. Because the contact between the aqueous solution and oxygen is suppressed, the contrast of a polarizing film produced is significantly increased.

Prior to the present invention, it was not known to produce a polarizing film by dipping a film in an aqueous solution containing water, boric acid, and potassium iodide in a weight ratio of 100:(2-15):(2-20) at a temperature of 55 to 85°C while suppressing the contact of the aqueous solution with oxygen. Also, the effect of increasing the contrast of the polarizing film by such a production method was not known.

**2. *The Legal Standard Required to Establish a Prima Facie Case of Obviousness***

MPEP § 2141 sets forth the guidelines in determining obviousness. First, the Examiner has to take into account the factual inquiries set forth in *Graham v. John Deere*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), which has provided the controlling framework for an obviousness analysis. The four *Graham* factors are:

- (a) determining the scope and content of the prior art;
- (b) ascertaining the differences between the prior art and the claims in issue;
- (c) resolving the level of ordinary skill in the pertinent art; and
- (d) evaluating any evidence of secondary considerations.

*Graham v. John Deere*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966).

Second, the Examiner has to provide some rationale for determining obviousness. MPEP § 2143 sets forth some rationales that were established in the recent decision of *KSR International Co. v Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007).

As the MPEP directs, all claim limitations must be considered in view of the cited prior art in order to establish a *prima facie* case of obviousness. See MPEP § 2143.03.

### 3. *The USPTO Fails to Present a Prima Facie Case of Obviousness*

The cited references fail to teach or suggest each and every element of Appellants' invention on appeal. As a result, no *prima facie* case of obviousness is established as to claims 1-6 and 8-10 on appeal.

#### a. *The Rejection of Claims 1-6 and 8-10 under 35 U.S.C. § 103(a)*

In support of the rejection of independent claim 1, the USPTO states as follows at pages 4-5 of the Final Rejection:

- 9) With regard to Claim 1, '369 teaches a method for producing a polarizing film comprising:
  - a) The step of dipping a polyvinyl alcohol film in/on which iodine is adsorbed and oriented in an aqueous solution containing boric acid at a temperature of 55 - 85 degrees Celsius ('369 Column 6 Lines 38-50 and Column 4 Lines 59-67).
  - b) A weight ratio of water : boric acid : potassium iodide in said aqueous solution containing boric acid is 100 : (2 - 15) : (2 - 20) ('369 Column 6 Lines 38 - 51 teaches 100 : 2 : 4).
  - c) '369 is silent as to the limitation wherein contact between the aqueous solution and oxygen is suppressed.
  - d) '369 teaches that for PVA dry-stretching, an oxygen-poor atmosphere is desirable to prevent discoloration of the PVA (Column 4 Lines 1-12) and that a heat treatment may be conducted after the fixing step (Column 4 Lines 59 - 67).
  - e) '092 teaches that a post-fixing heat treatment improves the polarization properties of the PVA film when performed in the absence of oxygen. (Column 2 Lines 4-7, Column 3 Line 66 - Column 4 Line 31).
  - f) Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have combined the method of '369 with the post-treatment step of '092 because '369 wants to create a polarizing film and '092 teaches a way to improve the optical properties of a polarizing film.
  - g) '369/'092 discloses the claimed invention except for wanting to suppress contact between the aqueous solution and oxygen. It would have been obvious to one having ordinary skill in the art at the time the invention was made to perform this

suppression since it was known in the art that oxygen produces deleterious effects in the processing steps immediately surrounding it (discoloration in the stretching step, impaired polarization in the heat treatment step).

*b.      Distinctions Between the Claimed Invention and the Cited References*

*Claim 1*

The cited references fail to teach or otherwise provide for each of the limitations recited in independent claim 1 (or any of the claims that depend therefrom).

**Isozaki** discloses a polarizing film comprising polyvinyl alcohol (PVA) having a polyvinylene structure. In the production method of **Isozaki**, the polyvinyl alcohol film is subjected to dry-heat stretching at a temperature of 100 to 250°C (col. 4, lines 1-5). During the stretching, the film may be discolored due to the oxidation of PVA. To avoid such discoloration, the dry-heat stretching is preferably conducted in an oxygen-poor atmosphere such as a nitrogen atmosphere or in vacuum (col. 4, lines 7-11).

**Starzewski** discloses a polarizing film based on polyvinyl alcohol containing polyacetylene as the light-polarizing substance. The POLPAC film (a polarizing film of PVA which comprises polyacetylene as a dichroic substance) is heated at a temperature of between 100°C and 300°C (col. 2, line 66 to col. 3, line 12). Before the POLPAC film is heated at such a high temperature, the POLPAC film is provided with a protective layer, which is impermeable to oxygen, such as a silicate layer, to increase the degree of polarization of the POLPAC in a wavelength range of 400-500 nm by the optimization of the structure of polyacetylene (col. 2, lines 22-27).

In the method for producing a polarizing film according to the present invention, the PVA film in/on which iodine is adsorbed and oriented is dipped in an aqueous solution of boric acid at a temperature of 55 to 85°C while the contact between the aqueous solution and oxygen is suppressed.

As such, the polarizing film to be treated according to the present invention is different from the films disclosed by **Isozaki** or **Starzewski**.

As previously argued, the USPTO has not established a *prima facie* case of obviousness because the method of the present invention suppresses the contact of an aqueous solution of boric acid to oxygen but not the contact of the film to oxygen.

The USPTO still alleges:

It is obvious at this point that if contact between oxygen and the PVA film is not suppressed between the pretreatment and the posttreatment heating step, oxygen in contact with the PVA film will be carried into the posttreatment step and cause undesirable negative effects. The combination of the prior art as presented comprises three steps – pretreatment, dipping and posttreatment. Therefore, it would have been obvious to suppress contact between the PVA film and oxygen during the dipping step. Since the PVA film comes into direct intimate contact with the aqueous solution during the dipping step, it would have been obvious to suppress contact between the aqueous solution and oxygen so that the aqueous solution could not transfer oxygen into contact with the PVA film, leading to deleterious effects in the posttreatment step.

Applicants respectfully traverse. As described above, **Isozaki** discloses a polarizing film comprising polyvinyl alcohol (PVA) having a polyvinylene structure and a method for producing such a polarizing film. **Starzewski** discloses a polarizing film based on polyvinyl alcohol containing polyacetylene as a light-polarizing substance and a method for producing such a polarizing film.

In contrast, the polarizing film to be treated by the method of the present invention is a PVA film in/on which iodine is adsorbed and oriented. That is, to impart the polarization property to a PVA film, iodine is adsorbed in/on the film and oriented.

Although the present invention, **Isozaki**, and **Starzewski** commonly use a PVA film as a base film, the kinds and structure of substrates used to impart the polarization property to the PVA film are different among the present invention, **Isozaki**, and **Starzewski**. Thus, it is meaningless to discuss the similarity of each treating step.

Among the present invention, **Isozaki**, and **Starzewski**, the key conditions in the method for producing the polarizing film are different since the structures of the polarizing films to be produced or treated are different. Therefore, it is meaningless to combine the different methods for producing the different polarizing films. The method of the present invention would not have been obvious from the combination of **Isozaki** and **Starzewski** since the structure of the polarizing film to be produced by the method of the present invention is different from the structures of the polarizing films of **Isozaki** and **Starzewski**.

In addition, **Isozaki** describes that the dry-heat stretching, which is carried out at a temperature of 100 to 250°C, is preferably conducted in an oxygen-poor atmosphere such as a nitrogen atmosphere or in vacuum. However, with regard to wet stretching, which is carried out at a temperature of 20 to 90°C, **Isozaki** never describes that the wet stretching is carried out in such an oxygen-poor atmosphere. Furthermore, **Isozaki** does not teach that the treatment of the film with a boric acid solution after stretching is carried out in an oxygen-poor atmosphere.

**Isozaki** discloses that, in the production of a polarizing film comprising polyvinyl alcohol (PVA) having a polyvinylene structure, it is preferable to use an oxygen-poor atmosphere when the PVA film is stretched at a high temperature of 100°C or higher (dry-heat stretching). **Isozaki** never discloses or teaches the use of an oxygen-poor atmosphere when the PVA film is stretched at a relatively low temperature of lower than 100°C (wet-stretching). Rather, **Isozaki** suggests that the polarizing film may not be discolored by oxygen in the wet-stretching step at a relatively low temperature. In addition, **Isozaki** never discloses or teaches to carry out the treatment with boric acid in an oxygen-poor atmosphere. Thus, **Isozaki** suggests that the polarizing film may not be discolored by oxygen during the treatment of the polarizing film with boric acid.

**Starzewski** discloses the exclusion of oxygen in the heat-treatment step at a temperature between 100°C and 300°C. As **Isozaki** does, **Starzewski** teaches that oxygen is preferably excluded in the treatment of the film at a high temperature of 100°C or higher.

According to the present invention, the treatment of the film with the boric acid solution is carried out at a temperature of 55 to 85°C, which is much lower than the temperature at which **Isozaki** or **Starzewski** treats the film when excluding oxygen.

Therefore, the treatment of the film with boric acid solution according to the present invention is not a high temperature treatment as recommended by **Isozaki** or **Starzewski**. Furthermore, **Isozaki** carries out the treatment of the film with boric acid in an atmosphere. Accordingly, the suppression of contact between the boric acid solution and oxygen as is done in the method of the present invention would not have been obvious from **Isozaki** or **Starzewski**.

The Examiner asserts that it would have been obvious to suppress the contact of oxygen during the treatment of the film with boric acid by combining the preference of the oxygen-poor atmosphere in the pretreatment and the exclusion of oxygen in the posttreatment. However, **Isozaki** or **Starzewski** teaches the preference of an oxygen-poor atmosphere or the exclusion of

oxygen in the treatment of the film at a high temperature of 100 to 250°C or 100 to 300°C. In fact, according to **Isozaki**, it is not recommended to carry out the treatment of the film with boric acid in an oxygen-poor atmosphere.

As discussed above, **Isozaki** in view of **Starzewski** do not disclose each and every aspect of the pending claims. Appellants respectfully submit that **DesMarais et al.** and **Dempo** do not cure the above noted deficiencies of **Isozaki** and **Starzewski**. As such, each of pending claims 1-6 and 8-10 are also patentable and non-obvious over these cited references, even when combined with the disclosures of **Isozaki** and **Starzewski**.

To establish a *prima facie* case of obviousness of a claimed invention, all of the claim limitations must be disclosed by the cited references. As discussed above, **Isozaki** in view of **Starzewski**, with or without the other cited references, fail to disclose all of the claim limitations of independent claim 1, and those claims dependent thereon. Accordingly, the combination of references does not render the present invention obvious.

Furthermore, the cited references or the knowledge in the art provide no reason or rationale that would allow one of ordinary skill in the art to arrive at the present invention as claimed. Specifically, the Supreme Court in *KSR*, 82 USPQ2d at 1395-97 identified a number of rationales to support a conclusion of obviousness which is consistent with the proper “functional approach” to the determination of obviousness as laid down in *Graham*. According to MPEP 2143, exemplary rationales that may support a conclusion of obviousness include:

(A) Combining prior art elements according to known methods to yield predictable results;

(B) Simple substitution of one known element for another to obtain predictable results;

(C) Use of known technique to improve similar devices (methods, or products) in the same way;

(D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;

(E) “Obvious to try” — choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;

(F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art;

(G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

The USPTO has failed to support the rejection under 35 U.S.C. § 103(a) according to these, or any other, rationales.

With respect to rationale (A), the USPTO must articulate “a finding that the prior art included each element claimed” (MPEP 2143). Regarding rationale (B), the USPTO must articulate “a finding that one of ordinary skill in the art could have substituted one known element for another” (MPEP 2143). With respect to rationale (C), the USPTO must articulate “a finding that the prior art contained a ‘comparable’ device...that has been improved in the same way as the claimed invention” (MPEP 2143). Rationale (D) requires a similar finding. As discussed above, the combination of references fails to teach or suggest all the claim limitations of pending independent claim 1 (and those dependent thereon).

With respect to rationale (E), the USPTO must articulate “a finding that there had been a finite number of identified, predictable potential solutions to the recognized need or problem.” Rationale (F) requires a similar finding that “the differences between the claimed invention and the prior art were encompassed in known variations or in a principle known in the prior art.” As discussed above, the cited references fail to disclose that the suppression of the contact between the aqueous solution containing boric acid and oxygen improves the contrast of the polarizing film. As such, the prior art fails to recognize an issue with the contrast of the polarizing film, and in turn, the prior art does not provide any potential solutions, variations, or principles to overcome this problem.

Finally, rationale (G) requires “a finding that there was some teaching, suggestion, or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.” This finding cannot be based on mere conclusory statements and must be clearly articulated. The USPTO has failed to do so.

Since at least one finding of each rationale cannot be made, none of these rationales can be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art. Any other suggested rationale would fail for similar reasons given above.

For the reasons above, a *prima facie* case of obviousness has not been established, and withdrawal of the outstanding rejections is respectfully requested.

*Dependent Claims 2-6 and 8-10*

Dependent claim 2 is directed to an embodiment wherein the contact between said aqueous solution containing boric acid and oxygen is suppressed by adjusting an oxygen concentration in an atmosphere which is in contact with said aqueous solution to 5% by volume or less.

Dependent claim 3 is directed to an embodiment wherein the contact between said aqueous solution containing boric acid and oxygen is suppressed by using an inactive gas as a gas which is in contact with said aqueous solution.

Dependent claim 4 is directed to an embodiment wherein the dipping of said polyvinyl alcohol film in said aqueous solution containing boric acid is carried out while bubbling said inactive gas in said aqueous solution.

Dependent claim 5 is directed to an embodiment wherein said inactive gas is nitrogen, helium or argon.

Dependent claim 6 is directed to an embodiment wherein said polyvinyl alcohol film is dipped in said aqueous solution containing boric acid while said aqueous solution is treated with activated carbon continuously or intermittently.

Dependent claim 8 is directed to an embodiment wherein a temperature of said aqueous solution containing boric acid is from 50 to 85°C, and a dipping time is from 90 to 1,200 seconds.

Dependent claim 9 is directed to an embodiment wherein said polyvinyl alcohol film has a polymerization degree of 1,500 to 5,000.

Dependent claim 10 is directed to an embodiment wherein said polyvinyl alcohol film in/on which iodine is adsorbed and oriented is a film produced by uniaxially stretching an unstretched polyvinyl alcohol film in water and then dipping it in a solution containing iodine and potassium iodide, a film produced by dipping an unstretched polyvinyl alcohol film in a solution containing iodine and potassium iodide and then uniaxially stretching it, a film produced by uniaxially stretching an unstretched polyvinyl alcohol film in a solution containing iodine and potassium iodide, a film produced by uniaxially stretching an unstretched polyvinyl alcohol film in a plurality of dipping steps, or a film produced by uniaxially stretching an unstretched polyvinyl alcohol film in a dry state and then dipping it in a solution containing iodine and potassium iodide.

Given the above-discussed deficiencies of the cited references, the invention of claims 2-6 and 8-10 patentably distinguishes over the teachings of the references. In view of the above, the USPTO fails to present a *prima facie* case of obviousness.

#### VIII. CLAIMS

A copy of the claims involved in the present appeal is attached hereto as Appendix A.

#### IX. EVIDENCE

There is no additional evidence pursuant to §§ 1.130, 1.131, or 1.132 and/or evidence entered by or relied upon by the examiner that is relevant to this appeal as noted in Appendix B.

#### X. RELATED PROCEEDINGS

No related proceedings are referenced in II. above, and thus, copies of decisions in related proceedings are not provided.

#### XI. CONCLUSION

The withdrawal of the outstanding rejections and the allowance of claims 1-6 and 8-10 are earnestly solicited.

If necessary, the Director is hereby authorized in this, concurrent, and future replies to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

Dated: November 8, 2010

Respectfully submitted,

By 

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**APPENDIX A****Claims Involved in the Appeal of Application No. 10/538,079**

1. A method for producing a polarizing film comprising the step of dipping a polyvinyl alcohol film in/on which iodine is adsorbed and oriented in an aqueous solution containing boric acid at a temperature of 55 to 85°C wherein contact between the aqueous solution and oxygen is suppressed,

wherein a weight ratio of water:boric acid:potassium iodide in said aqueous solution containing boric acid is 100:(2-15):(2-20).

2. The method according to claim 1, wherein the contact between said aqueous solution containing boric acid and oxygen is suppressed by adjusting an oxygen concentration in an atmosphere which is in contact with said aqueous solution to 5% by volume or less.

3. The method according to claim 1 or 2, wherein the contact between said aqueous solution containing boric acid and oxygen is suppressed by using an inactive gas as a gas which is in contact with said aqueous solution.

4. The method according to claim 3, wherein the dipping of said polyvinyl alcohol film in said aqueous solution containing boric acid is carried out while bubbling said inactive gas in said aqueous solution.

5. The method according to claim 3, wherein said inactive gas is nitrogen, helium or argon.

6. The method according to claim 1, wherein said polyvinyl alcohol film is dipped in said aqueous solution containing boric acid while said aqueous solution is treated with activated carbon continuously or intermittently.

8. The method according to claim 1, wherein a temperature of said aqueous solution containing boric acid is from 50 to 85°C, and a dipping time is from 90 to 1,200 seconds.

9. The method according to claim 1, wherein said polyvinyl alcohol film has a polymerization degree of 1,500 to 5,000.

10. The method according to claim 1, wherein said polyvinyl alcohol film in/on which iodine is adsorbed and oriented is a film produced by uniaxially stretching an unstretched polyvinyl alcohol film in water and then dipping it in a solution containing iodine and potassium iodide, a film produced by dipping an unstretched polyvinyl alcohol film in a solution containing iodine and potassium iodide and then uniaxially stretching it, a film produced by uniaxially stretching an unstretched polyvinyl alcohol film in a solution containing iodine and potassium iodide, a film produced by uniaxially stretching an unstretched polyvinyl alcohol film in a plurality of dipping steps, or a film produced by uniaxially stretching an unstretched polyvinyl alcohol film in a dry state and then dipping it in a solution containing iodine and potassium iodide.

**APPENDIX B**

There is no additional evidence pursuant to §§ 1.130, 1.131, or 1.132 and/or evidence entered by or relied upon by the examiner that is relevant to this appeal.

APPENDIX C

There are no related proceedings.